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Notice of Allowability	Application No.	Applicant(s)	
	10/816,146	LE, QUI V.	
	Examiner	Art Unit	
	Douglas N. Washburn	2863	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 7 September 2004.
2. ☒ The allowed claim(s) is/are 1-20.
3. ☒ The drawings filed on 01 April 2004 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date <u>1712005</u> . |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date <u>1 April 2004</u> | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

DETAILED ACTION

Prior Art Cited

1 Kelly Jr et al. (US 4,757,258) teaches an inspection system and process for inspecting a plurality of conduits mounted in a manifold (tubesheet). The system comprises a probe carrier for driving an eddy current or ultrasonic probe throughout the conduits to be inspected, and a delivery assembly detachably mountable within the manifold for remotely delivering and inserting the probe carrier into the open ends of the conduits. The system includes a control system having a television camera for allowing the insertion and pusher mechanism to be positioned by remote control, as well as a computer and first and second encoders operatively connected to the angular and axial drive motors for mapping the locations of the open ends of the tubes prior to the inspection operation. Kelly Jr is silent regarding establishing a baseline for each tube of its location in the tubesheet and its unique signal pattern resulting at least in part from fixing the tube end in the tubesheet; comparing the signal pattern data obtained for the first identified tube with the baseline signal pattern resulting at least in part from fixing the tube end in the tubesheet for the first identified tube, in order to verify the correctness of the tube identification; and accepting the obtained signal pattern data if the correctness of the tube identification has been verified by the comparison.

Costlow et al. (US 4,586,249) teaches a fluid mandrel having a connected eddy current probe. The eddy current probe comprises a probe body detachably connectable to the bottom of a fluid mandrel on one end, and a source of hydraulic fluid on the other end. The probe body includes a pair of sensing coils which are separated along the longitudinal axis of the body by a distance approximately equal to the thickness of the metallic structure desired to be detected. The mandrel finds application in performing expansions which eliminate clearance between heat exchange tubes extending through the baffle plates in nuclear steam generators. In such an application, the sensing coils of the probe are longitudinally spaced the same distance as the thickness of the baffle plates in order to generate a sharp and unambiguous electronic signal indicative of the relative positions of the mandrel and the baffle plate. Costlow is silent regarding establishing a baseline for each tube of its location in the tubesheet and its unique signal pattern resulting at least in part from fixing the tube end in the tubesheet; comparing the signal pattern data obtained for the first identified tube with the baseline signal pattern resulting at least in part from fixing the tube end in the tubesheet for the first identified tube, in order to verify the correctness of the tube identification; and accepting the obtained signal pattern data if the correctness of the tube identification has been verified by the comparison.

Metala et al. (US 4,856,337) teaches an apparatus and a method for simultaneously inspecting the walls of a tube with both ultrasonic and eddy current probes. The apparatus comprises a cylindrical housing assembly insertable within a tube to be inspected, and a probe carrier rotatably mounted within and helically movable with respect to the housing. The probe carrier holds three ultrasonic probes for transmitting ultrasonic beams which are directly oriented radially, chordally, and axially with respect to the longitudinal axis of the tube, as well as an eddy current probe for simultaneously inspecting the walls of the tube with electromagnetic lines of flux. In the method of the invention, the data generated by the three ultrasonic probes is correlated with the data generated by the eddy current probe for each specific section of the tube, and displayed simultaneously to the system operator. The resulting complementary display of both ultrasonic and eddy current probe information allows the system operator to accurately determine the size, shape and nature of any flaws which may be present in the walls of the tube. Metala is silent regarding establishing a baseline for each tube of its location in the tubesheet and its unique signal pattern resulting at least in part from fixing the tube end in the tubesheet; comparing the signal pattern data obtained for the first identified tube with the baseline signal pattern resulting at least in part from fixing the tube end in the tubesheet for the first identified tube, in order to verify the correctness of the tube identification; and accepting the obtained signal pattern data if the correctness of the tube identification has been verified by the comparison.

Allowable Subject Matter

2 Claims 1-20 are allowed.

The following is an examiner's statement of reasons for allowance:

Claim 1 recites, in part, "establishing a baseline for each tube of its location in the tubesheet and its unique signal pattern resulting at least in part from fixing the tube end in the tubesheet; comparing the signal pattern data obtained for the first identified tube with the baseline signal pattern resulting at least in part from fixing the tube end in the tubesheet for the first identified tube, in order to verify the correctness of the tube identification; and accepting the obtained signal pattern data if the correctness of the tube identification has been verified by the comparison". This feature in combination with the remaining claimed structure avoids the prior art of record.

Claims 2-9 depend from claim 1.

Claim 10 recites, in part, "establishing a baseline for each tube of its location in the tubesheet and its signal pattern resulting at least in part from fixing the tube end in the tubesheet; comparing the signal pattern data obtained for the first identified tube with the baseline signal pattern resulting at least in part from fixing the tube end in the tubesheet for the first identified tube, in order to verify the correctness of the tube identification; and accepting the obtained signal pattern data if the correctness of the tube identification has been verified by the comparison". This feature in combination with the remaining claimed structure avoids the prior art of record.

Claims 11-14 depend from claim 10.

Claim 15 recites, in part, "establishing a baseline for each tube of its location in the tubesheet and its unique signal pattern resulting at least in part from fixing the tube end in the tubesheet; comparing the signal pattern data obtained for the first identified tube with the baseline data for said tube, which is stored in the database, in order to verify the correctness of the tube identification; accepting the obtained signal pattern data if the correctness of the tube identification has been verified by the comparison or identifying another tube for comparison if the tube identification has not been verified by the comparison". This feature in combination with the remaining claimed structure avoids the prior art of record.

Claims 16-20 depend from claim 15.

It is these limitations, which are not found, taught or suggested in the prior art of record, and are recited in the claimed combination that makes these claims allowable over the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

3 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Douglas N. Washburn whose telephone number is (571) 272-2284. The examiner can normally be reached on Monday through Thursday 6:30 AM - 4:30 PM.

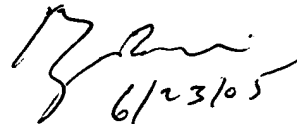
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Barlow can be reached on (571) 272-2269. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DNW

BRYAN BUI
PRIMARY EXAMINER



6/23/05